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How to Measure the Business Ecosystem Resilience

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Abstract

The COVID-19 pandemic exposed how quickly public-service ecosystems can be disrupted in a VUCA (volatile, uncertain, complex, and ambiguous) environment, and it highlighted the need for government entities to remain resilient while sustaining essential services. In the United Arab Emirates (UAE), the rapid shift to distance learning and the coordinated mobilization of partners—such as expanding connectivity, providing devices, and enabling teacher support—demonstrated strong crisis responsiveness. Yet, alongside these achievements, evidence of business fragility during the pandemic underscores a paradox: high public-sector agility can coexist with severe ecosystem-wide vulnerability. This paper addresses this challenge by examining how UAE public-service organizations can measure business ecosystem resilience and translate well-being-oriented policy goals into operational practice. Building on prior literature that has often treated "business resilience" and "business ecosystems" in silos, the study proposes an integrated conceptual foundation for an emergent Business Ecosystem Resilience model and identifies the need for performance dimensions and indicators that capture adaptability, coordination, innovation, and continuity across ecosystem actors. Using an action research approach, the paper outlines a practical pathway to bridge the rigor-relevance gap through collaborative inquiry with stakeholders, enabling the co-generation and validation of actionable metrics. The expected outcome is a measurement-oriented framework that supports UAE government entities in assessing preparedness, strengthening resilience capabilities, and improving their capacity to anticipate, respond to, and learn from future disruptions—offering value to both scholars and practitioners locally and globally.

Keywords

VUCA, Business Ecosystem Resilience, UAE Public Sector, COVID-19, Resilience Measurement, Action Research

1. Introduction

Are we ready for VUCA world, where life is full of volatility, uncertainty, complexity, and ambiguity? On the 11th of March 2020, the World Health Organization (WHO) declared COVID-19 a global pandemic (WHO, 2020). By this time, the virus had spread in most parts of the world, affecting different governments' daily operations. The response to the spread of the virus differed in many countries. With the changes in the approach of learning, the business ecosystem was mainly transformed. Ideally, COVID-19 disrupted the UAE's public service. Different non-profit organizations within the country were affected, primarily focusing on providing distinctive value shared services. However, it is always essential for organizations to remain resilient during such occurrences to remain functional and ensure that all strategies and policies made are robust. Business resilience entails an organization's ability to "anticipate, prepare for, respond, and adapt to the incremental change and sudden disruptions in order to survive and prosper" (Denyer, 2017). The COVID-19 pandemic had a significant impact, as it affected entities to provide their routine services to different stakeholders. To ensure they cope with the changes and disruptions, they must focus on ensuring their business ecosystem encourages adaptation to the related environment's changes.

There have been numerous inspiring stories in the UAE concerning the response to COVID-19 by the public sector. The public service in the UAE is integral to the survival of the citizens. The government's first step to ensure it protected the UAE's community was to direct the higher education institutions to adopt distance learning. This was a way of ensuring that the pandemic's learning activities were not affected (U.AE, 2020). Second, the private sector partnered with the government to provide free satellite broadband services in the areas that lacked connectivity through Al Yah Sat Company. Third, the government engaged suppliers to provide students with more than 100,000 free laptops to ensure they accessed e-learning platforms. Lastly, the government coordinated with Hamdan Bin Mohammed Smart University to launch free online solutions for teachers. The UAE government carried out all these activities within two weeks of announcing that COVID-19 is a global pandemic (U.AE, 2020).

As a result, the UAE is among the ten best countries to fulfill different business criteria in the pandemic. In this regard, to understand how the UAE public service operates concerning business activities, it is essential to determine ways of measuring the business ecosystem's resilience because there is a paradox regarding how the pandemic has affected businesses in the UAE. According to CNBC news, there is a projection that 70 percent of businesses in Dubai are likely to go out of business within six months as a result of the COVID-19 pandemic (Turak, 2020). This shows the impact of COVID-19 on the UAE's government efficiency.

"Disparities between businesses appear most stark when we measure their resilience to extended duration of the pandemic" (Bartik et al. 2020: p. 45). Almost every organization, suppliers, partners, and consumers have been affected. Solu-

tions to the problem should focus on establishing resilience in the business ecosystem by focusing on setting performance measurements to ensure the optimization, progress, consistency, flexibility, adaptive innovation, preventive controls, defensive, and mindful actions of the business ecosystem based on scientific fundamentals and business best practices.

Business Ecosystem Resilience (BER) is defined as the dynamic, system-level capability of a network of interdependent public-sector entities and their strategic partners to collectively anticipate, absorb, adapt to, coordinate during, and transform in response to disruptions, while sustaining essential public value and long-term national well-being outcomes.

This definition reflects recent scholarship emphasizing resilience as a multi-actor, network-based capability rather than a single-entity attribute (Sahu & Panda, 2024). Unlike organisational resilience, which focuses on firm-level adaptive capacity, or supply-chain resilience, which centres on linear value-flow continuity, Business Ecosystem Resilience operates across governance structures, shared digital infrastructures, and inter-organisational coordination mechanisms. Accordingly, the unit of analysis in this study is the ecosystem level rather than the individual organisation.

So based on my previous efforts in reviewing the literature focusing on two frameworks: Gaps in Business Resilience and Business Ecosystem, and as part of understanding the business parameters and performance indicators within the UAE and their survival post-COVID-19, the idea itself has to be defined to formulate and develop emerged model, "Business Ecosystem Resilience model," capable of achieving the following aim.

Aim:

This study aims to develop and propose a structured measurement framework for assessing Business Ecosystem Resilience within the UAE public-service ecosystem by identifying key resilience dimensions and operational indicators applicable across interconnected government entities and their strategic partners.

Most empirical time-series research generally agreed on the urgency of focusing on Business Resilience in a wider scope. A member of the Managing Board in the World Economic Forum published an urgent report in July 2020, discussing the three main ways in which entities can survive through the pandemic. First, to avoid running out of business, organizations can become agile. This means that they can renew themselves, change quickly, and adapt to succeed in the ambiguous, turbulent, and rapidly changing business environment. Second, digitalization can help organizations cope with the changes and disruptions in the business ecosystem. Organizations should focus on creatively changing their business model to adapt to the changes in the business environment. Lastly, organizations can choose to cooperate with other partners to change how they operate (Menon, 2020).

Preceding literature reviews, both theoretical and empirical, focusing on qualitative works, many have studied and reported some outcomes about the different

relationships, majorly showing a positively correlations, between business resilience and business ecosystem. My doctoral dissertation proposal heavily draws from practitioner-scholar work of BCG, Deloitte, BSI, etc. which will be further extended. In fact, the main aim of reviewing studies related to the business ecosystem is that UAE launched in September 2019 the Government Excellence Model, GEM 2.0, to emphasize the importance of embracing ecosystems through effective collaboration to break the silos and generate added-value services to the public. One of the GEM criteria is "A dynamic behaviour of the organizational ecosystem demonstrating resilience, adaptability, and future-shaping capability," and this criterion will be assessed in all public entities and should get a high score. Not only being competitive nationally but also being in a leading position through adopting best practices in both capabilities and results. To review the best practices in measuring the organizational ecosystem's maturity, which demonstrates resilience, there are very limited studies in this area. According to Joo and Shin (2018), Previous studies of business ecosystems have paid little attention to measuring ecosystems' effectiveness or their participation in the resilience of business ecosystems.

More recent studies extend the resilience discourse beyond individual organisations to encompass business and entrepreneurial ecosystems. Empirical evidence suggests that ecosystem resilience is strongly influenced by network structures, coordination mechanisms, and adaptive capacity among interconnected actors (Sahu & Panda, 2024). Digital innovation and ecosystem embeddedness have also been identified as critical enablers of resilience outcomes in complex and interdependent environments (Jan et al., 2025). From a governance perspective, public-sector research underscores the need for resilience frameworks that integrate performance measurement, coordination, and accountability across institutional boundaries (Zahari et al., 2025). These findings reinforce the argument that ecosystem-level resilience measurement remains underdeveloped, particularly within public governance systems.

Hence, it appears no article has yet been published exploring the same conceptual model that focused on the interrelation theory and the consequences on public sectors (**Figure 1**). So the absence of a clear emerging framework that combined business resilience within ecosystem scope and the limited number of academic studies that explore and explain the outcomes and limitations in Mode 2 had strength my motivation to bring it up in my dissertation. According to Davidson et al. (2013), there is a need for a more mature conceptual, theoretical and practical model that is capable of aligning resilience with suitable performance measurement that is relevant to strategic goals to ensure its growth and sustainability. In 2020, a new journal was published, Journal of Business Ecosystem, which aims to be the leading journal dedicated to studying business ecosystems and platforms by attracting empirical and theoretical studies to get advanced analytical techniques for these dynamic changes in the system. Also, there are many calls for papers in this area in different journals found on Emeraldgrouppublish-

ing.com in 2020.

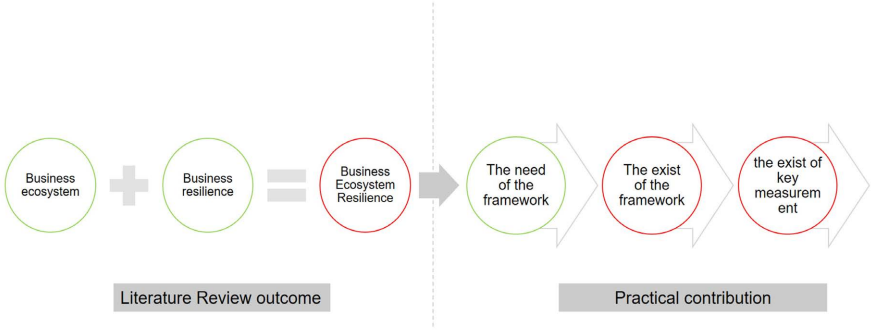


Figure 1. Conceptual Model—Gaps and contributions.

The government desires to sustain their outcome and learning cycles. "To bridge the gap between theory and practice, we need a method of inquiry that converts the information provided by scholars and practitioners into actions that address the problems of what needs to be done in a given field" (Van De Ven & Johnson 2006: p. 803). As a scholar, this will construct and build new knowledge for this specific gap and identify further gaps for the next researchers. Later, in Section two from the paper, I will present the key articles and the limitations in both theoretical and practical efforts from the scholars to bridge the knowledge gap. Below is a summary of major collective conclusions from different articles to answer why we chose this path and define the research question.

Per my problem, it's practically oriented; by narrowing the knowledge gap, practitioners can understand more and contribute further easily in the implementation of what science needs. Researchers may help recognize where convergent information has been created and identify key study opportunities (Hodgkinson & Rousseau, 2009). In reality, the result involves the production and validation of a variety of instruments, which is the main characteristic of the Action Research role. So strong relationships between academics and practitioners, supported by effective training approaches, will produce results to the shared advantage of both agendas that satisfy the twin imperatives of highly quality scholarship and social usage, without undermining the interests of either group in relation (cf. Pettigrew, 1997).

Research Question:

How can Business Ecosystem Resilience be operationalised and measured across interconnected entities and partners within the UAE public-service ecosystem, and which dimensions and indicators provide robust, comparable, and actionable assessment outputs?

Recent research and policy discourse emphasise that organisational and public-sector resilience has evolved from a reactive capability into a strategic and measurable necessity in volatile, uncertain, complex, and ambiguous (VUCA) environments. Contemporary studies stress that resilience must be understood as a dynamic, system-level capability that integrates anticipation, adaptation, and trans-

formation across organisational and ecosystem boundaries (OECD, 2024a; Toro-Gallego et al., 2025). Despite this growing attention, there remains limited empirical guidance on how public-sector organisations can operationalise and measure resilience within complex business ecosystems, particularly in post-COVID contexts.

Nature of the Study:

This paper presents a research design and proposed measurement framework rather than completed empirical findings. It outlines the conceptual foundation, action research methodology, and structured validation strategy intended to develop and refine Business Ecosystem Resilience metrics. Empirical validation will be conducted through participatory engagement and Delphi-based consensus procedures.

Research Structure and Design:

According to Creswell, the structure of action research should follow certain sequence such as background, methods, overview of outcomes and researcher's comments on the use of action approach (Creswell, 2012). As per the research design proposed, it aims to create and test the knowledge of the above problem following the below structure:

- Section 1: Introduction
- Section 2: Literature review related to the B-ecosystem Resilience
- Section 3: Literature review of Action Research
- Section 4: Operationalization Conceptual Framework of Rigor-Relevance Gap
- Section 5: Applying conceptual framework to answer my research question
- Section 6: Reflection

2. Literature Review

2.1. Business Ecosystem Resilience

In the aftershock of the COVID-19 crisis, we were painfully aware of supply chains' fragility, health care, and other vital structures. Many leaders have declared their intention to develop their companies more resiliently, but not many know how to do that (Reeves et al., 2020). Few business schools teach resilience, and today's management toolkit is dominated by financial performance management (Denyer, 2017). As a result, very few organizations can plan, assess and handle resilience directly. Resilience is highly important today because the world market is getting more complex and volatile. There's no better example of business stress than the coronavirus pandemic. In fact, COVID-19 isn't a once-in-a-lifetime. SARS, MERS, and Ebola have warned of a predictable worldwide pandemic, and there is a possibility that we will see more in the future (Reeves et al., 2020).

The changes in the business ecosystem are inevitable, and organizations need to plan for the post-COVID-19. In short, in any business ecosystem, disruptions or crises affect how organizations function (Lengnick-Hall et al., 2011: p. 246). However, to help organizations adapt to the changes and disruptions, performance assessment indicators and methods should be implemented to ensure that

organizations adapt to the changes. The current COVID-19 pandemic is likely to change how people behave and think. With the changes, organizations must adjust by adopting new practices. Therefore, organizations in the UAE will have to focus on adapting to the changes caused by the pandemic.

In the current business environment, corporate capitalism's model dictates that every organization be treated as an economic island where performance is optimized individually (Reeves et al., 2020: p. 8). This means that there is no universally accepted way of measuring the performance of an organization's resilience. Every sector optimizes its operations individually. According to Barany (2013: p. 89), the current business environment has become extremely challenging for many organizations because of the numerous changes occurring with a focus on improving performance; different organizations now focus on how they can implement other innovations to have a competitive advantage over their competitors. Government entities are also affected by numerous changes in the business ecosystem. In the UAE, the business ecosystem is mainly concerned with the public's attitudes towards different aspects of life and business, the government policies, the suppliers, and distributors. Government entities are mostly concerned with these factors to improve their public services (Selmi & Bouoiyour 2020: p. 107). Nevertheless, despite collaborations between public entities, organizations still face the challenge of finding suitable associated metrics and performance indicators to evaluate the benefits of adapting to the changes in business ecosystems and achieving business resilience among governmental organizations (Graça & Camarinha-Matos, 2017).

Recent literature has increasingly focused on advancing the measurement and operationalisation of organisational resilience. Smuda-Kocoń (2024) highlights that while resilience is widely acknowledged as multidimensional, there is still no consensus on unified assessment frameworks capable of capturing adaptive, absorptive, and transformative capacities. Systematic and hybrid reviews further demonstrate a growing convergence between resilience and sustainability research, positioning resilience as a driver of long-term organisational performance rather than short-term recovery (Ciasullo et al., 2024; Dickson, 2025). However, these studies also acknowledge persistent gaps in translating conceptual resilience models into actionable performance indicators that can be applied across diverse organisational contexts.

Business Ecosystem and Business Resilience as the new conceptualized merged framework "B-ecosystem Resilience Model," which is the core outcome of my research, have always been studied in silos. This assignment will seek the exploration of the importance to emerge these two frameworks together to be well managed, and the limitations in translating the research into practice and the contribution in providing tactics in transferring the knowledge from Mode 1, which is the academic context, to Mode 2, which is the context of application. According to Kieser and Leiner (2009), scholars have to derive their research question from practice rather than existing academic research. In sequence, the conceptual "B-

ecosystem Resilience" is adapted for Mode 1 of this research and the aim of this assignment is to move it toward Mode 2 to create knowledge by getting the outcome of implementing the B-ecosystem Resilience Model from different top-tier entities in UAE (**Figure 1**). To expand the boundary of knowledge and leave an imprint, the formulation of the research should be well focused in all stages based on the defined purpose (Leonard, 2001). Also considering the magnitude of knowledge, Gibbons et al. made a difference between disciplinary knowledge—Mode 1 which is formed inside the academy and explained it as a linear, and transdisciplinary knowledge—Mode 2 which produced outside the university where its described as experiential, which is the approach of Action Research.

Proposed Dimensions of Business Ecosystem Resilience:

Building on the ecosystem-oriented resilience literature reviewed above, this study proposes five preliminary dimensions to structure the measurement of Business Ecosystem Resilience. The first dimension, Anticipation Capacity, captures the ecosystem's ability to identify emerging risks and prepare proactively through mechanisms such as integrated foresight systems, scenario planning frequency, and early-warning coordination across entities. The second dimension, Absorption and Continuity, reflects the capacity to sustain essential service delivery during disruption, measured through indicators such as service continuity rates, redundancy mechanisms, and digital infrastructure resilience. The third dimension, Adaptation Capability, evaluates the speed and effectiveness with which entities adjust policies, redeploy resources, and implement digital innovations in response to environmental change. The fourth dimension, Transformation Capacity, assesses the institutionalization of learning and structural reform following crisis events, including post-disruption innovation initiatives and governance redesign processes. Finally, Coordination and Governance examines the density and effectiveness of inter-organizational collaboration, shared accountability mechanisms, and cross-entity decision-making platforms. Together, these dimensions operationalize ecosystem-level resilience as a distributed and coordinated capability rather than a firm-centric attribute, providing a structured foundation for subsequent indicator refinement and validation.

2.2. Action Research

According to Kieser and Leiner (2009), the only scholars who discussed Mode 2 in depth are MacLean et al. (2002) and Starkey and Madan (2001). The absence of applying Mode 2 in management is due to the requirement of conducting extra work outside the universities where it could be political, business, or social domains. (Nowotny et al., 2001). According to Gibbons et al. (1994), Mode 2 mechanism for the development of knowledge involves the participation of talented teams who use the resources efficiently to address such real world problems that are not controlled by conventional knowledge paradigms. Generally speaking, mode 1 concerns information development focused solely on theories, ignoring the applicability of the outcomes (in specific, concerning basic science), while

Mode 2 pursues implementation in a knowledge society in line with most of the research (Coghlan, 2007). In Gibbons et al. (1994), a new context driven, controversial, and interdisciplinary approach to the collective mechanism of the production of information began to develop. The start of Mode 2 approach may date back to the mid-20th century. Action research or Participatory Action Research is a methodology used for enhancing practices through conducting systematic explorations in different environments by collaborative teams (Lingard et al., 2008; Whitehead et al., 2003).

The origins of action research were in the United States, which can be traced back to Kurt Lewin in 1946 who is considered as founder and key landmark followed by the United Kingdom in mid 70s which was championed by the Schools Council's Humanities Curriculum Project. As mentioned, all researchers introduced this methodology for the sake of solving education problems by studying the theory and practice of schooling and the curriculum (Creswell, 2012). This method has several advantages as getting the engagement of practitioners with the research, which will enhance accessibility to generate valid solutions to practical issues (Meyer, 2000), and that will lead to effective change (Whitehead et al., 2003). Action research has a variety of other acronyms. Reportedly, as obtained from a sample of 33 applied research organizations, are knowledge Translation, Knowledge Transfer, Knowledge Utilization, etc. These words are also used as nouns relating to professionals, decision-makers who use this process. Graham et al. (2006: pp. 14-21) discussed the importance of bringing together all the characteristics of different definitions to make it clear in the designing stage of the research plan for starting Mode 1, which makes the work more relevant.

According to Creswell (2012), the difference in action research is that throughout the process cycle, researchers could be individual, one or even two institutions and quite often an external facilitator, who need to develop and practice multiple skills such as technical planning, critical observation and focus, assessment, validation, and sharpened reflection. Based on Stringer framework in 2008 (**Figure 2**), he distinguished between basic and action research in having one extra phase, which is action, where it aims to create solutions. Van de Ven (2007) raises the question of how a committed scholar should produce analysis of a complex issue that emanates the rigor of science but has an impactful application for the practitioner. Also, he proposes that a mode of research desired can transform information created by researchers into action that solves real-world problems in collaboration with practitioners.

In addition, Pettigrew believes that there should be no single best method of framing, creating, disseminating and utilizing information, arguing for a pragmatic solution (Pettigrew, 2001: p. 61). He emphasized co-production, namely the accomplishment of analysis by academics and professionals collaborating together at each point of the process, beginning with definition, architecture, field study, data gathering, data processing, and reporting (Orr & Bennett, 2012). This is simply about merging the traditionally respected science style with the current

use-driven mode (MacLean et al., 2002). Action Research reflects and is affected by the way practitioners engaged in the position of manager-researchers may produce and lead to successful information by collaborating with all stakeholders, such as academics, practitioners in the same or other sectors as subject matter experts, leaders, etc. According to Coghlan and Brannick (2005), Action Research is meta-learning, which means learning about learning.

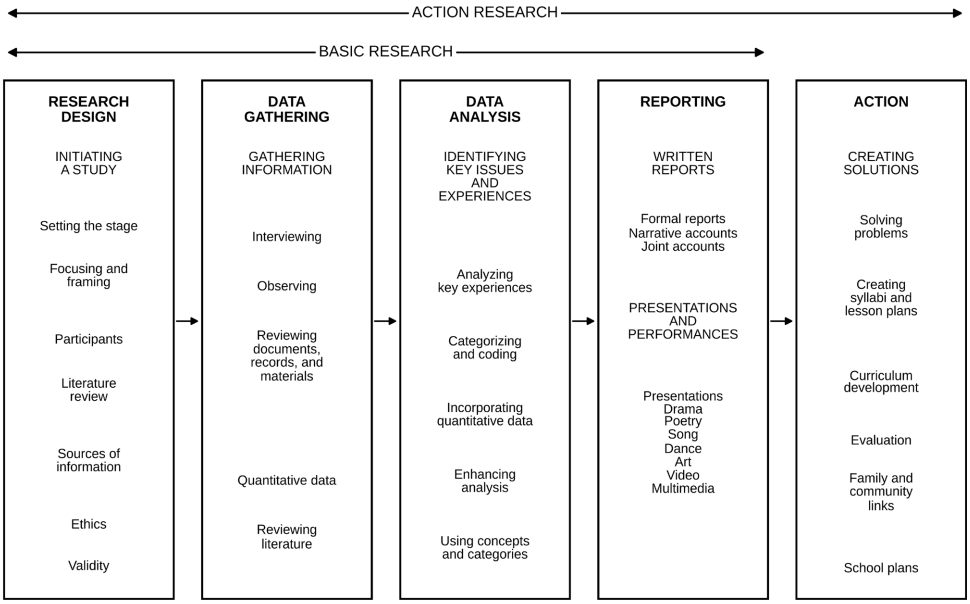


Figure 2. Action research stages (adapted from Stringer, 2008).

Key characteristics of Action Research:

According to Carr and Kemmis (1986: p. 164), there are different characteristics of action research, such as

1) Participatory Character: as they should have the readiness to change, build trust, and respect the conflicts.

2) Democratic Impulse: which means the researcher should act as a facilitator to get meaningful outcomes, where it should be fed back to the participants to validate accordingly.

3) Simultaneous Contribution to social science (knowledge) and social change (practice); this is how it's different from conventional research.

In addition, Action Research consists of three types of reflection according to Coghlan (2007: p. 300), where it emphasizes that Action Research is the most agile and dynamic method in both reflection and integration of organizational learning mechanisms, enabling itself to become more than a traditional rigid problem-setting strategy:

1) Content Reflection: reflects on where leaders are concerned about problems, what is going on, etc.

2) Process Reflection: reflects where they think about enhancing the strategies and exploring the processes of different issues.

3) Premise Reflection: to criticize fundamental perceptions and viewpoints.

According to Kieser and Leiner (2009), the relevance to practice criteria is listed in the checklists for most leading management articles. Authors comply with this requirement by showing the implications for practice of their findings. No proof is needed in the context of effective outcomes. In essence, the scholars can only show the effect that practitioners will derive from their findings as they socially create them. Whether the reviewers' approach is in line with the author's relevance, the necessary criteria will be fulfilled. In that way, Lomas (1993) gives a valuable differentiating classification from developing to distribution for a specific audience. Many scholars raised the issue of the existing gap between academic research and practitioner as the Rigor-Relevance gap. This will be discussed in the following section.

3. Limitations of Action Research

This section is intended to explore the challenges of translating research into practice. It addresses the comprehensive discussion from various points of view in chronological sequence (Dodge et al., 2005; Shapiro et al., 2007; Van de Ven, 2007; Kieser & Leiner, 2009; Coghlan, 2011; Wolf & Rosenberg, 2012, etc.) Drawing on the "Business Ecosystem Resilience" argument for positive and collaborative research. It highlights the related challenges and prospects for collaborative study. Previous studies conclude that cross-disciplinary collaborations and alignment between researchers and practitioners can produce more concrete and advancing results in the field of implementation by allowing organizations to interact with practitioners and policymakers to create an application (Guerci et al., 2019).

Before 30 years, Porter and McKibbin stated the real management issue facing the education sector was providing students with real case studies to obtain related skills. After that, the rigor-relevance gap has been discussed heavily by both practitioners and academic scholars (Kieser & Leiner, 2009). According to Van de Ven (2007), there is an ongoing challenge in bridging the rigor-relevance gap because of miscommunication and unrelated research. For example, scholars don't generate and create knowledge from the real world, and practitioners don't build on knowledge developed by academic scholars.

In fact, to bridge the gap, the effort lies in having a specific execution pattern through good hypothesis testing based on empirical studies, which in management wasn't adopted seriously (Shrivastava, 1987; Anderson, Herriot, & Hodgkinson, 2001; Kelemen & Bansal, 2002). Being reality-oriented is the main success factor in bridging this gap (Wolf & Rosenberg, 2012). The research needs to be rigorous to ensure its credibility, a firm methodology and positive outcomes as well (Miles & Huberman, 1994; Yin, 2016). Research should be thoroughly analysed, well organized, with current literature taken into account, and it should be greatly drawn from general hypotheses. The findings, predictions, and reasoning should be relevant. Due to matters such as sample collection, objectivity of calculation, analysis of data, and alteration, rigor has been secured (Wolf & Rosenberg,

2012).

The aim is to address real-world problems from the point of practitioners to create actionable knowledge (Dodge et al., 2005). The gaps between theory and practice are one way of thinking: a problem of transmission of knowledge (Van De Ven & Johnson, 2006: p. 803). Shapiro et al. (2007) mentioned that the issue of transfer of knowledge before and during translation is that knowledge is lost in such a way that scientific results are connected to and therefore not translated into practice. Also, academic writing in scholarly journals can make relevant research difficult for practitioners to understand (Shapiro et al., 2007). A language barrier creates a fog, because researchers are aware that research results are not sustained. Moreover, the division in knowledge production is another reason (Van de Ven, 2007). Researchers and practitioners are claimed not to have similar practical ontologies. So theory and practice function in fully different institutional logics, therefore, knowledge transmission from one system is never adopted by another (Shapiro et al., 2007; Hodgkinson & Rousseau, 2009).

Kieser and Leiner (2009) conclude that there is ultimately an unbridgeable gap between management scholars and practitioners. They argued that there can be no estimation of the effectiveness of research outputs, nor assessment of research methods, nor research that is relevant. In contrast, Hodgkinson and Rousseau (2009) provided some cases to prove that there are some research results that are socially relevant and academically rigorous.

Kieser and Leiner (2009) had four arguments, such as:

1) Science is an ineffective and unreliable source for managerial education. On the other hand, Hodgkinson and Rousseau (2009) argued that management courses still rely on real-time issues, applying case study techniques in their programs such as the ones delivered by INSEAD.

2) Science communicates with its own but cannot easily interact through practice. In contrast, Hodgkinson and Rousseau (2009) claimed that this argument varies to some extent and there is evidence and collective examples of common application of different successful practices such as Psychometric Tests.

3) Academic researchers and practitioners cannot all be rigorous. In comparison, the philosophical position is important, as mentioned by Hodgkinson and Rousseau (2009). Also, according to (Bhaskar, 1998; van de Ven, 2007) amphasized that critical realism perspective maintains limits instead of promoting one study method over another. So critical realism allows researchers to triangulate evidence and procedures through various research traditions. If you adopt critical realism, empirical evidence is unable to say if it is "true or false" because it has differing degrees of validity and relevance.

4) Theory and practice can be far poorer if they work together. Unlike Hodgkinson and Rousseau (2009) argued that SHRM is one such multinational professional organization, with more than 225,000 participants in 125 nations since 2007. SHRM publishes various guides based on evidence provided by both academic scholars and practitioners.

Also, according to Van de Ven (2007), there are three pillars to look at the gap for the purpose of bridging and mitigating the knowledge.

1) Scientific information is not well transmitted or disseminated among the practitioners. So the transfer process of the knowledge is broken.

2) The two parties don't have mutual interest, so knowledge generated by one party is not required or necessary for the other one.

3) No stakeholder's information is full, comprehensive and could have essential theoretical or practical gaps.

So, to summarise this debatable topic, academic researchers and practitioners are different and they couldn't always have mutual enrichment. I think that the answer is not embedded in a process other than behind values and skills. Heterogeneity, zeitgeist, and mutual virtue are the root cause of an unbridgeable gap. In fact, it's important to consider the philosophical position when conducting research (Guba, 1990).

3.1. Limitations of Current B-Ecosystem Resilience Studies

Are business organizations still in a sick bed, as mentioned by (Kieser & Nicolai, 2005)? Is what is happening now in the pandemic, specifically in the world of uncertainty, proof of that? It is quite concerning that little evidence suggests knowledge has been utilized in the workplace. One of the greatest problems is to turn into reality, by functional resources that are simple to execute and efficient in operation (Bannerman, 2008; de Bakker et al., 2010). However, while management is commonly deemed capable of defining or justifying some facets of different processes, critique of the analytical models on which this field has historically been a persistent source of concern. One of the good initiatives that Geneva came up in 1970 is the World Economic Forum as the only global institute performing this function, bringing together world-leading CEOs, presidents of different countries, ministers and policymakers, experts and scholars, foreign organizations, technological innovators and civil society leaders in an impartial space with the goal of promoting meaningful progress in governments. What is missing, based on the problems defined in the previous section, aiming to bridge the knowledge gap is WEF is not engaging academic scholars intensively. For example, the reports generated are not following an academic approach. Therefore, there is no value chain established between the two parties where Van de Ven described it as broken.

Furthermore, the goal of the collective research has two parts: 1) to make use of this study as a guide for an evaluation of what is considered good knowledge creation and whether the requirements for rigor, relevance, and transferability are met. Based on Van de Ven (2007), the problem could be in the understanding, addressing, or engaging phase as described in the previous section. 2) Also, to make sure the outcome is well defined and scholars can build and rely upon it.

"It is worth remembering that, in its early day's management science was in danger of losing its legitimacy because it lacked distance to practice" (Kieser, 2002). Regarding professionals and decision makers' interests, a range of topics

need to be discussed, in particular those relating to the impact of management philosophy on the response to challenges and the practical applications that have been established in resolving those concerns. According to Van de Ven (2002), it's important to derive the research question from practice rather than existing research. Based on this concept, my research question was mainly inspired by the 2020 pandemic and World Economic Forum remarks. Based on that, many readings in both empirical and theoretical aspects were conducted to finalize the research question as follows and mainly to find practical implementations where these gaps are addressed.

Previous studies of business management have paid little attention to Business Resilience in a wider scope and, based on the above research, provide disciplinary agnostics that lack substantive experience in core fields of social science and have a comparatively limited theoretical repository (**Figure 3**). COVID-19 raised the flag to think seriously about the ecosystem and wider domain if a company wants to survive. Although there was an initiative by a group of volunteers to establish ICOR, International Consortium for Organizational Resilience, in the United States by a group of consultants as non-profit credential and training body. It was clearly mentioned in their mission "to bring together the many silos, industries, and separate bodies of knowledge that individually support resilience into one profession entitled Organizational Resilience." (ICOR, 2021). Still, this body is in an early stage, and if it had a partnership with an academic scholar, this would illuminate it. Since 2017 till now, there have been very limited efforts by both scholars and practitioners in the field of studies, conferences, new journals, and reports to shed light on the urgency of thinking about business resilience widely and developing an approach/ model for it, followed by a guideline that includes parameters and measurements to ensure the entities are resilient in a VUCA world (**Figure 4**).

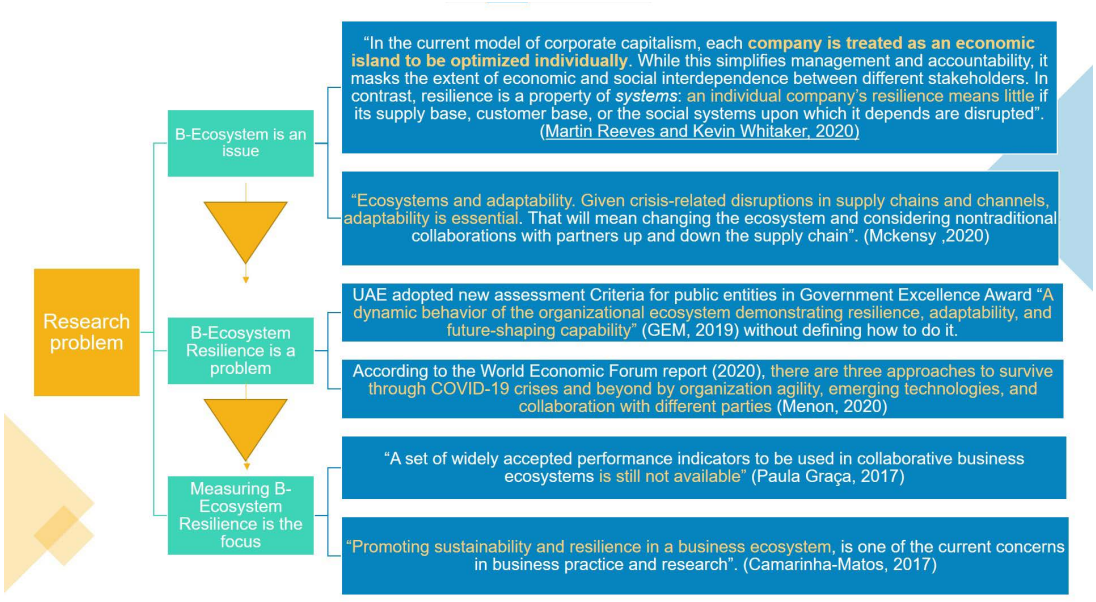


Figure 3. The approach of developing research question and the findings.

Author	Type	Description	Findings	outcome
BSI teamed up with Cranfield School of Management (2017)	Empirical	181 academic articles supplemented with 5 case studies to bring some new insights on business resilience	Various case studies from different companies such as Infosys which developed a strategic five year's plan, including cooperating performance indicators, to capture internal and external parties such as people, culture, operations, and market. Being agile and adapting new software-based services are their critical success in maintaining profitable growth	"Rapid evidence assessment concluding with different streams such as: (1) Response to external threats (2) Preparedness and organizational reliability (3) Coping with occupational and job demands (4) Renewal and strategic agility and crisis as opportunity (5) Supply chain vulnerabilities and disruptions (6) Ensuring IT/IS/cyber stability (7) Defining and conceptualizing resilience"
Davidson, Putten Leith, Nursey-Bray, Madin, and Holbrook (2013)	Empirical	"Seeking to contribute to the scholarship on operationalizing resilience concepts via a working resilience indicator framework. Although it requires further refinement, this practical framework provides a useful baseline for generating awareness and understanding of the complexity and diversity of variables that impinge on resilience".	"practical framework to understand and illustrate the complexity of resilience measurement"	Only framework – not tested which maps resilience with relevance measurements
Reeves et al (2020) ** ****used to check the novelty**	Literature Review	Reeves et al. (2020) argue that past crises can be used to understand organizations' survival trends in the public sector. In every crisis, organizations found ways to adapt to the disruptions and changes	Many leaders declared the intention to rebuild their companies more resiliently, but not many know how to do so	None

Figure 4. Some of the collective past readings and their major outcome assessment.

3.2. Findings

Reading 1: In 2017, the British Standard Institute (BSI) had a partnership with Cranfield School of Management to publish an insightful summary covering 181 academic articles from the 1970s to 2017. It was supplemented with five case studies to summarize the best academic evidence and business perceptions on Organizational Resilience (Denyer, 2017). The main finding is that senior executives must both ensure themselves against harmful incidents and adapt and improve until the risk of not doing so becomes too high. Systematically, business resilience was mainly established to preserve the values of organizations and avoid losses. Over the past 40 years, the evolution of organizational resilience has changed in different aspects. There are two critical drivers of business resilience—defensive and progressive—and there are two significant perspectives on how resilience should be implemented. In fact, there was a good engagement between academic scholars and practitioners and this could be a good example of successful action research in addressing, engaging and translating the knowledge. Aligning with 2.2

regarding the three pillars explained by Van de Ven (2007), the article above shows the mutual interest between academic scholars and practitioners from transfer to translate the knowledge as well as the stakeholders having a comprehensive engagement. The collaboration was clear and achieving a positive outcome is justified by a common language between the different parties. The only concern is that the formulation was close to a report rather than an academic "rigorous" research, as top journals will choose academic rigour rather than relevance (Kieser & Leiner, 2009).

Reading 2: Aiming to operationalize resilience concepts in Australian Marine Sectors to handle the climate change issue, this study was conducted by 6 authors from different entities, research centres, and universities. The outcome was a resilience indicator framework which is based on four case studies across key Australian marine biodiversity and resource sectors. There are many challenges that were faced by the authors as mentioned in the article: operationalizing resilience is associated with some more general conceptual and practical challenges. The first set of challenges includes developing the commonplace acceptance of complex adaptive systems (Walker & Salt, 2006), definitional problems resulting from the ambiguity of the "resilience" term (Brand & Jax, 2007), its dynamic context (Nelson et al., 2007, Bohensky, 2008), and constraints on further conceptual development by high levels of system complexity and dynamism (Marshall & Marshall, 2007). The second set of challenges involves the practical difficulties of resilience measurement (Carpenter et al., 2005), such as determining which variables to measure (Cumming et al., 2005; Davidson et al., 2013). This shows that the planning phase needs to be well focused and all engaged. Also, training, as mentioned above in the ambiguity part this could be resolved by awareness to ensure synergy in the whole research stage. As an action research to bridge the rigor-relevance gap, it is important to have a positive outcome by creating knowledge that is well assessed (Stringer, 2008). So, back to Van de Ven (2007), both scholars had a mutual interest, but they were poor at transferring the knowledge from the beginning, which requires further study as mentioned by the authors in order to test and refine the framework.

Promoting sustainability and resilience in a business ecosystem is one of the current concerns in business practice and research (Graça & Camarinha-Matos, 2017). Thus, working in collaboration with non-scholars who are not sufficiently qualified and experienced can imply a problem for professional practitioners. Customers are also referred to as co-creators of value (Payne, Storbacka, & Frow, 2008) or knowledge for innovation (Blazevic & Lievens, 2008). Fang (2008) views customer participation as the source of information or co-development. So communication between the two players is a key successful factor. In summary, where the study is performed from a traditional academic rigor perspective yet further pursues action research, it is recommended that it be cautious, adaptive, and adequately qualified in action research since, as per Coghlan (2007: p. 303), scholars require skills in dealing with action research that may or may not entail a significant outcome in knowledge creation. Management and social processes must continually change to sustain their relevance over time. However, changing emphasis from a

typical theoretical approach to intervention action research is likely to demand outcomes when drawing conclusions but, in particular, can entail profound impacts on analytical perspectives. So how can we ensure the efficiency of designing action research? In the next section, the model and following tactics will be explained.

4. Conceptual Framework of Rigor and Relevance Gap

In the dissertation, the aim is to achieve both knowledge transfer and translation. This needs the findings from my "B-Ecosystem Resilience" knowledge built according to a conventional Mode 1 methodology to be translated into actionable and valuable knowledge to gain future business management gains. **Figure 5** below displays a conceptual framework to bridge the gap mentioned in the previous section. According to Coghlan (2007), the importance of action research to scientific debate is not a matter of adhering to rigour, but rather of concentrating on rigour-relevance polarity. The study is entirely carried out in the framework of the conceptual Action Research approach, and it is possibly appropriate and ideal for the development of knowledge and the action cycle sub-processes focused on the position of managers and researchers. However, a better method for knowledge development of a theoretical model in business could be pursued while research ventures are planned to build a theoretical model using a Mode 1 stance. It shows a proposed model, defined by a clear focus, an implementation of nature and deep interdependence of theory and outcome (Kislov et al., 2019).

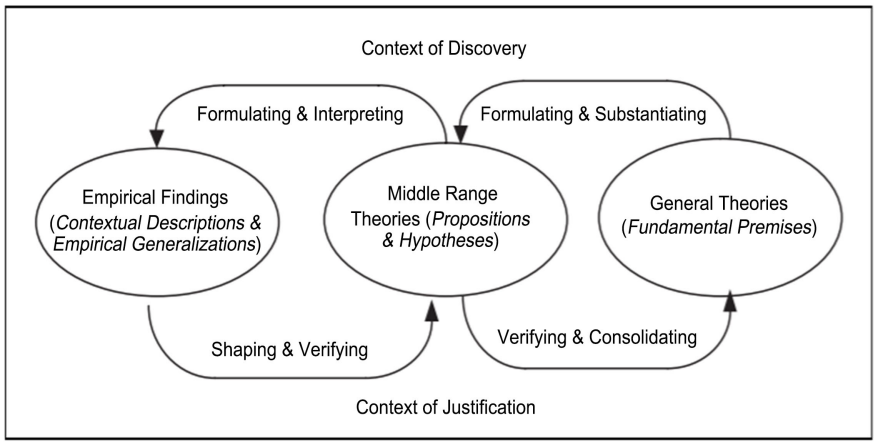


Figure 5. Bridging role of middle range theories (Brodie et al., 2011).

Developing a well-structured theory avoids the chaos of knowledge, as well as ensures a common language between the scholars and practitioners toward the implementation of desired practice (Kislov, Pope, Martin, & Wilson, 2019). Using this conceptual model will make a strong systematic thinking for the proposed theory as a base toward achieving a good impact in translating it to knowledge. It serves as a bridge to ensure two-way communication between theory and practice, with a feature of refining in all stages. This contributes to the creation of important, contextual, and dynamic approaches to theorizing a complicated interaction be-

tween the characteristics of all dependencies and the implementation of the practitioner. seeking to consider a broader understanding and comprehensive portrait of the dynamics and of social phenomena (Brodie, Saren, & Pels, 2011).

This methodology will achieve articulation of directed practices from a collective practice to a knowledge-oriented viewpoint. "Mid-Range Theories" play a crucial linking role in creating a bi-directional flow through cross-communication between findings/observations of low levels of abstraction and generalizability and "Grand Theories" are distinguished by their high levels of generality and abstraction. In this way, "Mid-Range" theories are proposed to be central to the social sciences, because they are adequate to include applied explanatory claims in a number of contexts; yet they are also sufficiently oriented to establish appraisable proposals and to direct practical study. In addition, the linking role of "Mid-Range Theory" helps the scientific enquiry circle to be operationalized, which in turn allows the continuous dynamic theorizing concept of application analysis to be workable. Theory becomes iterative as Kislov et al. (2019) claim that theorizing is no longer stagnant, but a scientific and evolutionary method.

Indeed, multidisciplinary paradigms co-existing may: 1) draw out the strengths and shortcomings of various modes of explanation; 2) apply them appropriately based on the study topic or functional problem at hand; and 3) make use of numerous relevant appraisal criteria for the different conceptual principles, theoretical perspectives and epistemological positions used in analysis. Second, while being in a knowledge-oriented position, action research is considered to be acceptable for research in many areas of social science, since it promotes theory utilization to develop actionable interventions as well as explain the effects of evaluations. Any actionable behavior that was not focused on hypotheses, templates, or structures and/or which did not originate explicitly from systematic data collection/analysis must therefore be criticized and challenged. Theories may be invaluable in describing intervention effects, anticipating how implementation can take place, and encouraging the generalization of research results (Brodie, Saren, & Pels, 2011).

Key features of the implementation research were highly considered in recommending it as fitting for the action research model: firstly, fundamentally iterative by its bidirectional nature, where it is important to consider that the "B-ecosystem resilience model" remains in the Mid-Range Theory domain. Therefore, even while it derives from the side of the Grand Theories, the knowledge can't be transferred and translated until it moves forward to data interpretation, verification, and formulating propositions. Secondly, largely strengthened by its mid-range linking grand theories with empirical findings. In addition, as has already been argued, the possibility that the study challenge outlined in the research design is explicitly related to organizational real issues as well as to well-defined academic gaps. This offers viable alternatives to the current constraints. For e.g., utilizing this model would position effectively target the correct domain.

So, the main aim is to build a conceptual model that is firm, grounded empirically, interrelated and well positioned in science and empirical borders to assure

further development. This approach would be used as guidance, mixed with the action research cycle to explore the "How"—tactic approach for applying all detailed steps.

5. Operationalization Conceptual Framework of Rigor-Relevance Gap

This study will adopt a structured action research design combined with a multi-round Delphi process to refine and validate the proposed Business Ecosystem Resilience (BER) measurement framework. Consistent with contemporary public-sector resilience research emphasizing collaborative knowledge production and indicator validation (OECD, 2024b), three leading UAE public entities will be purposively selected based on documented performance under the Government Excellence Model (GEM 2.0), particularly in ecosystem coordination and resilience-related criteria. Selection logic will prioritize entities demonstrating cross-boundary collaboration, digital integration capability, and documented crisis responsiveness during COVID-19. Within each entity, participants will include senior executives, excellence and performance managers, and subject-matter experts in risk management, digital transformation, and governance to ensure representation of both strategic and operational perspectives.

The Delphi process will be conducted over three iterative rounds. In Round One, participants will review and refine a preliminary set of resilience dimensions and indicators derived from the literature and conceptual framework. In Round Two, participants will rate each indicator using a structured Likert-scale instrument against predefined evaluation criteria. In Round Three, anonymized summary statistics and qualitative feedback will be shared, and participants will re-rate indicators to encourage convergence and stability. Consensus will be defined as at least 75 percent agreement within one Likert-scale point and an interquartile range of one or less. Qualitative responses will be analyzed through thematic coding to identify recurring ecosystem capabilities and governance mechanisms, while quantitative Delphi ratings will be assessed using median scores and dispersion measures. This combined approach ensures methodological rigor, transparency, and reproducibility in the pathway from conceptual model to measurable framework.

5.1. Applying Conceptual Framework to Answer My Research Question

As per Mode 1 research structure, my proposed theoretical model is primarily focused on the Grand Theories "B-Ecosystem Resilience" field. However, the empirical insights derived may theoretically be used as an attempt to tune and refine the proposed theory. This altered model will be the basis for a higher thought and perspective. Thereby helping to refine the reach of the Grand Theories in the area of business progress, will support gaining a more elaborated interpretation of the hypotheses as well. This assignment should initially be more on the knowledge

production, aiming to get whimsical empirical findings, and the literature review would rely on the analysis of the knowledge generation process. It must first be discussed and well comprehended. So, implementing the model is crucial to be implemented in the initial Action Research Model cycle to ensure that the Information is flowing inward/outward with the Action Process, pursuing the achievement of an actionable study. This study will have a beneficial effect on my overall work because it would enable me to bridge the gap between the theoretical and empirical domains, and that could retune the grand theory itself.

For our purposes, B-ecosystem resilience operationalization is the practical implementation of resilience principles in decision-making and strategy. The conceptual model will focus on making business ecosystem resilience principles effective within their theoretical and practical context to decision makers and leaders in the public sector, and leveraging lessons learned from this implementation to better guide the conceptual and practical development of resilience.

Action Research is typically conducted in stages, enabling radical changes. Below are some figures that show the different models. This is not a rigid structure or a straitjacket; it could be overlapped. Practically, the process is likely to be more agile, open, and responsive (Creswell, 2012). Also, some researchers declared that this exercise could take up to 2 years to get a significant result. In fact, the extreme reliance on a specific model, or certain stage too rigidly, could affect the unique chance offered, which is the hallmark of action research. In fact, there is no one right model recommended by the researchers, as anyone can adopt a model that suits the purpose of the study (**Figure 6**).

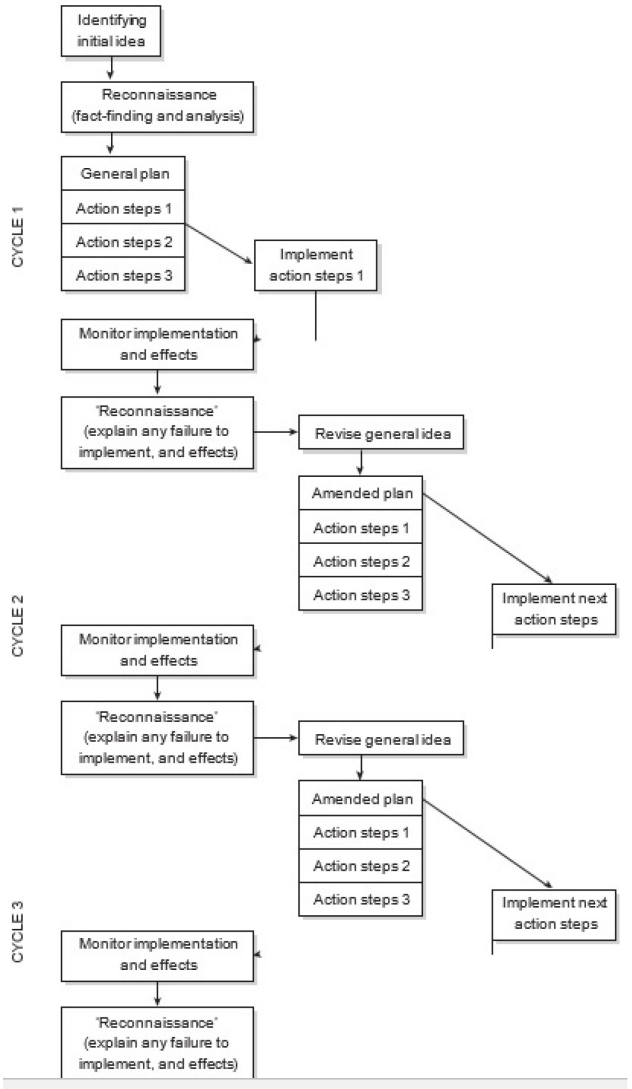
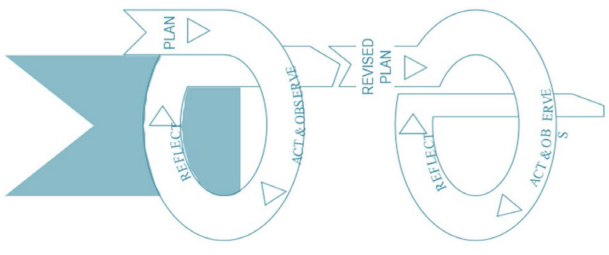
In the context of this research, the action research will support looking for best practices in business ecosystem resilience from different top-tier entities in the UAE government. If we summarize the different models of action research, the main crucial steps will be as follows:

Firstly, Plan: Specify, focus and agree on the practical context of concern and share with wider audiences. Context is the pre-step which provides an idea of why one engages in Action Research in a larger picture. The context derives from the original crux: why is it important for this project (Coghlan & Brannick, 2010)? From the background of this article, as an example, it is an overview of how to measure the business resilience ecosystem. Putting yourself in the frame (Creswell, 2012). Planning should include the following:

1) Explore or diagnose: Figure out what's going on now (getting information if necessary), looking into documentation, thinking about significant questions and hypotheses, focusing on some issues or risks. Coghlan and Brannick (2010) articulate that analysis to detect some issues to be resolved.

Firstly, based on the findings from the literature review done in this paper, the previous studies of business ecosystems have paid little attention to measuring the ecosystem's effectiveness or their participation toward resilience (Joo & Shin, 2018). However, in the infancy of business ecosystem research, scholars did not consider resilience a direct enabler of business Ecosystems (Joo & Shin, 2018).

Customers are also referred to as co-creators of value (Payne, Storbacka, & Frow, 2008) or knowledge for innovation (Blazevic & Lievens, 2008). Fang (2008) views customer participation as the source of information or co-development. The table below illustrates and summarizes the current problem, knowledge gap, and key drivers behind this problem.

Author name	Date	Model
Elliot	1991	
Kemmis and McTaggart	2000	

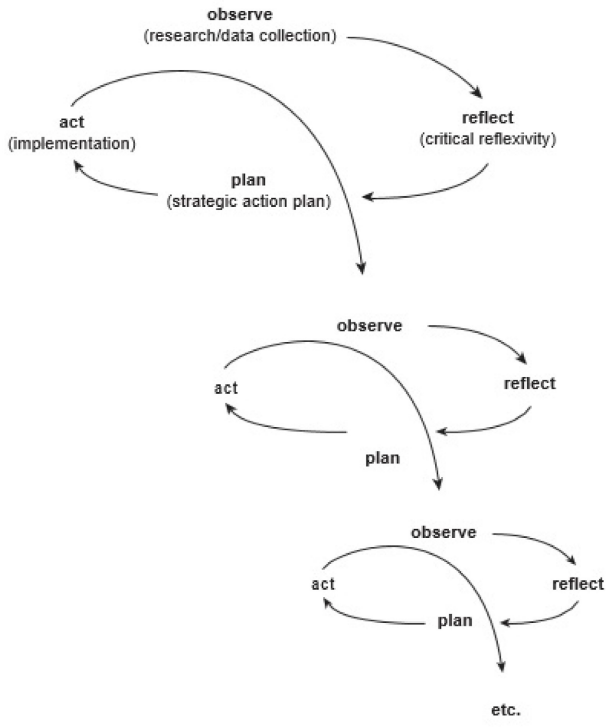
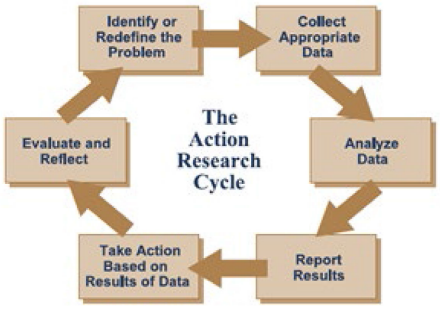
O'Leary's	2004	
Stringer	2008	

Figure 6. Action research cycle (Creswell, 2012).

According to Gustavsen (2003: p. 93), dryly remarks: "Action research may be something that the world needs". Also, Bedeian (1989: p. 4) stated that "most authors who lament the gap also have recommendations on how to bridge it." One remedy is self-evident: researchers should not derive their research questions from existing research but rather import them from practice (Van de Ven, 2007). In line with these guidelines to bridge the gap between theory and practice. "Although the framework is not yet ready for immediate implementation, to advance the framework, the next steps include its further testing and refinement within applied resilience-based management contexts. This could be achieved through participatory action research on resilience metrics and techniques to facilitate selection of key indicators" (Davidson et al., 2013), so one of the virtues of a resilience approach is that it opens up the possibility of operating in this "zone of uncertainty" (Bourdieu, 1997). The key insights used to endorse the proposed dissertation claims are drawn from scholarly references according to the character-

istics of "Mode 1 study design": a range of theoretical literature, analyses and practical works have been explored such as: 1) One article was done by BSI teamed up with Cranfield School of Management to summarize 181 academic articles supplemented with 5 case studies to bring some new insights on business resilience published in 2017, 2) operationalizing resilience concepts in Australian marine sectors to explore the resilience domain and parameters, which was published in 2013. Despite the fact that these works are empirical, there is little potential for outcomes and limitations that practitioners and decision leaders might get if they had followed a systematic approach of the Action Research Model.

2) Set-up question: consider a holistic question in a practical context. It's important to adapt the knowledge identified to the right position and context. The development and conceptualization of the proposed "Business Ecosystem Resilience model" came from different collective analyses, mainly from UAE government regarding GEM 2.0 award. There is an urgency to create emerged framework combining business resilience and Business Ecosystem. Then, by setting a clear dimension, there is a set of indicators framework to be proposed to underpin the system and this is important to both academic study and potential government policies. If properly adopted and with good buy-in from the stakeholders, there will be many promising benefits to be expected in both the short and long term. With the aim of efficiently dealing with uncertainty by ensuring government resilience, there are many functions performed by indicators. First, they may be used to define a benchmark and to evaluate the degree of improvement in relation to a specific level of resilience. Thresholds, priorities, or baselines, above which issues become crucial, help to cause corrective intervention when tracking changes (Reed et al., 2006). Monitoring metrics knowledge may be used as the foundation for adaptive management techniques that help stakeholders respond and handle change. Finally, indicators can improve social learning systems through the involvement of stakeholders in indicator production processes (Pretty, 1995). So the idea is to examine the meaningful and representative content of the qualitative data obtained from literature reviews to emphasize the research question. With a focus on the government sector in the UAE, the study sought to establish how the current UAE entities measure their ability to cope or adapt to the changing business ecosystem resilience. As such, the most important aspect of ensuring an organization remains resilient to the business ecosystem's changes is ensuring they are continually improving or optimizing their performance. In this regard, the study focused on the performance of the organizations on the following themes:

- How to measure resilience among organizations within their business ecosystem?

The question will be validated with the entities before planning for data collection. "Planning action" is described by Coghlan and Brannick (2010) as generating from the context and diagnosis of the problems at hand.

Secondly, Act and Observe: Before collecting the data, we need to consider a few elements such as the lens of different segmentations that can affect or be af-

fected by the study to ensure different perspectives. Collecting data by collaborative and engagement from the entities (top management and subject matter experts). Opening new discussion spaces to enhance the output. We need to assess some obstacles to utilizing the information. There are several issues concerning Action Research; specifically, many people could find the proposed study as a novel method. I propose that we should make particular efforts into "customized training" while considering the practical business benefits. In pursuing public policies, some collaboration among ministries, departments, and agencies is a must. Especially when working with a new group of stakeholders from different entities and experiences to understand the "business ecosystem resilience model". To be able to completely recognize and add to the research, they must receive customized preparation. It depends upon the degree of involvement and the size/ experience of the group.

The study will interview the top three public entities in the UAE based on their rank assessed by UAE Cabinet Affairs in Business Ecosystem and Resilience to document their success stories regarding business resilience, especially through the COVID-19 pandemic, and how they manage the business ecosystem's disruptions toward business excellence. Furthermore, Data collection will include archived records, documents, and 25 interviews with different managers and experts applying the Delphi technique to get the perspective from an internal and external lens as active stakeholders in the business ecosystem.

Thirdly, reflect: developing reflections based on the interpretation from the entities' output (individually), then creating knowledge from all different entities, which is called Living Knowledge.

1) Organize data: consider the relevance and interactions, think about wholes, envision what is absent, and utilize tables, charts, mind maps.

2) Interpret data: consider what insights to bring, engage in exploration of different lenses.

3) Reflect on the process: revisit the conclusion if something is missing, what assumptions are we making, what risks are we merging, what is the theory now and is it necessary to get some feedback.

4) Creating products or processes: codify the findings to develop new models that others can utilize? Are we able to live what we have realized? Get input from others. Also, it's important to get some feedback. The contribution should be directed toward real transformation.

5) The main outcome is the management framework and measurement criteria for business ecosystem resilience, and once collected effectively from the top 3 entities will be validated, compared, and get the feedback about the final findings as shown in the graph below. The idea is that each entity could go through one completed cycle (**Figure 7**) to get a benefit and opportunity to enhance the plan and action to get a better outcome.

Coghlan and Brannick (2010) consider that the validation of the collection does not only involve intended outcomes but also unintended ones.



Figure 7. A summary of implementing Action research (proposed).

Finally, Revised Plan: Bring up the findings, but this will not be absolute, as theory could be generated and enhanced and its application explored. Also, the cycle could be repeated whenever the researcher didn't achieve the aim or if there is a gap between target and actual outcome. The main valued deliverable is to produce an effective solution and create live knowledge. According to Reason and Bradbury (2001) explained that the main objective of action research is to generate practical knowledge for people. As "theory without action is meaningless".

It is important to encourage the use of knowledge and to make sure it's well translated. I would suggest that the appropriate approach will then be implication of change management as a major shift, and the recommended framework is to incorporate the PMI approach by treating it as a pilot project. It is also necessary to set out explicitly all the requirements for project management, such as communicating with stakeholders, designing a timetable plan, developing the scope of work, etc. It is therefore necessary to concentrate on meetings and training to assure people dedication and full commitment, for their crucial role in the structuring and deployment of the project. Setting up all the criteria for performance should be implemented in order to prevent project failure. According to the PMBOK Guide, a project will go through different cycles such as initiation, planning, execution, and closing, and within these stages, controlling is crucial to make sure the deliverables reflect planned objectives through well-defined key success factors (Project Management Institute, 2017). Here is a crucial stage to know the real and grounded outcomes that are obtained. In fact, achieving the objective would be foundationally approved if the outcome has been used for further research.

It's significant to sustain ongoing knowledge use; following the quality control principles is preferable in view of potential study. The researchers should work to develop and enhance the conceptual Action Research Model to enable cross-com-

munication. Social policies should be continuously modified under a statistical evidence-based strategy. In fact, maintaining communication and the group of subject matter experts can enhance the level of maturity in each cycle of GEM award. "Mode 2 Research is perhaps the only consistent way of looking at change, from the inside of a dynamic which can only be accessed through experience" (MacLean et al., 2002).

At each stage of knowledge creation, knowledge producers will adjust their efforts to comply with the needs of potential clients. They will customize their study questions in order to answer the issues found by practitioners. In addition, they may adjust or customize the dissemination process to help reach the targeted people. Being dynamic and agile is important and could be a key success factor to get the buy-in. In fact, Graham identified over 60 such theories or frameworks and among the theories or frameworks are many hypotheses. These are explored by the following phases, such as identifying the problem, reviewing selected knowledge, adapting it to the local context, identifying barriers, implementing interventions and changes, monitoring and evaluating the outcomes, and finally sustaining the use of ongoing knowledge.

The nature of action research design enables the identification of specific findings that can lead to the proper formulation of hypotheses and propositions. Especially because it is important for the entire conceptual model to effectively function, the action cycle must be operationalized. As Lavis et al. (2003) have stated, knowledge producers will promote the uptake of the study by answering five questions: what should be disseminated? To whom is it to be disseminated? By whom is it to be disseminated? Why is it to be disseminated? And for what impact is it to be disseminated? According to Graham et al. (2006), dissemination is spreading and tailoring the knowledge or study in scientific journals and scientific conferences to a particular audience. To launch effective actionable research, academics need to ensure that they ask the following questions:

Dissemination	
What should be disseminated?	GEM 2.0 is a key driver toward government business excellence in B-Resilience Ecosystem. However, the concern is how to set the Business Ecosystem Resilience well-defined framework, implemented, communicated, and measured in the public sector? This is the key assessment criteria in GEM 2.0 which was launched recently in October 2019. As UAE government included that in the excellence model, asking all the entities to start creating their own approach as initiative to be overseas by the cabinet affairs. This leads to the importance of setting a systematic fundamental from the public service aspect of how to be resilient in the B-ecosystem. The current study analyses the UAE public services' organizations to understand how their resilience should extend to the whole ecosystem to define and improve their KPIs, especially with the changing business ecosystem and VUCA world. However, with success experienced by the organizations in providing public services and organizations run by the government, it is safe to say that the efficiency in providing public services in the UAE helps measure the resilience of the organizations in the country. Therefore, many organizations can cope with the business ecosystem's changes, illustrated by how efficient public service is in the UAE. So the main outcome is B-ecosystem resilience dimensions set, grounded in a rigorous approach, the future indicator structure would set the ideal foundations for a robust indicator scheme, and any public institution in the United Arab Emirates will get the opportunity to make use of it.

Continued

To whom should it be disseminated?	Stakeholders are key players that should be considered to make sure they are fully committed and their vision is aligned. According to Shapiro et al. (2007), to amend action research gap, there were key reason that have been figured out which is researcher don't communicate with stakeholders such as scholars from different fields, practitioners with various experiences, potential users. So it's important to create continuous and sustainable relationship and two-way communication between researchers and practitioners. Stakeholder analysis usually applies to the variety of approaches or techniques used to define and recognize the needs and expectations of major interests inside and outside the project domain. According to Smith (2000), there are many players in this research and using this segmentation, which is shown in **Figure 8** below, will enhance the synergy. Key stakeholders mainly but not finally could be: • Academics researchers who are working in business centres in UAE universities. • Policymakers mainly the cabinet affairs, GEM team, and top management in top 3 entities. • Practitioners who are working in top consultant groups in UAE. • Excellence division and Practitioners in the top 3 entities. • Creating powerful and influential team and engaging them at the right stage will coordinate the effort ending up with distinguished outcome.
By whom is it to be disseminated?	Creating champions is certain. Their role will be combined between academic and practitioner so in this early stage, I would suggest that subject matter experts who are working in GEM office could have a really great input and key players. They have communication skill and will get the buy-in from the entities smoothly. As well as the outcome will be valued and appreciated by the decision makers.
How should it be disseminated?	1) UAE GEM group was asked to build capabilities in Egypt, Jordan, Saudi Arabia and Uzbekistan, and copy the same model there. So this case study could be delivered internationally once accepted. Also, in 2017, A Memorandum of Understanding was signed between the Sheikh Khalifa Government Excellence Program and the Emerald British Publishing Company to highlight the position of the Government Excellence Model "GEM" and to plan active analysis, studies and implementations of the Model at local and international level and in different languages. So this will expedite the publication of the case study. 2) Also, there are annual conferences sharing white papers, lessons learned, and best practices in different domains by GEM, as well as their website is a good platform to publish in. Also, meetings and training materials could be a good choice as well. 3) This research will contribute theoretically to bridge the current issue. A new journal was published recently in 2020, The Journal of Business Ecosystem, which aims to be the leading journal dedicated to studying business ecosystems and platforms by attracting empirical and theoretical studies to get advanced analytical techniques for these dynamic changes in the system. Also, there are many call for papers in this area in different journals found in Emeraldgrouppublishing.com in 2020. As a scholar, this will construct and build new knowledge for this specific gap and identify further gaps for the next researchers.
With what effect should it be disseminated?	Business resilience is integral to the success of any business in the world. In stable times, a company may be thought of as optimizing success for a given business model in a given environment. On the other hand, resilience involves how the relationship between the components of a company or between a company and its meaning shifts under stress. It needs systems thinking and structural solutions, which rely on cooperation between employees, customers, and other stakeholders to survive. The main challenge in the UAE is the ability of some organizations to remain resilient, so the need is to emerge the ecosystem scheme with business resilience.

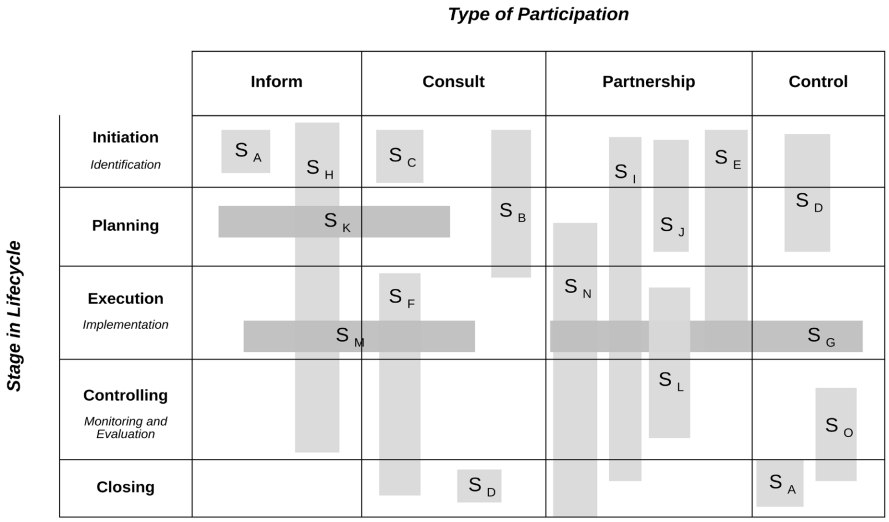


Figure 8. Stakeholder Participation Matrix (adapted from Smith, 2000).

Now that the five questions suggested as triggers of the operationalization process have been answered and the cycle of action is being explored.

5.2. Philosophical Position of Action Research

Epistemological and ontological interpretations may influence the research and its methods. Ontology is defined as the theory of being (Blaikie, 1993). In social reality, we need to identify what exists and how things are communicated and connected. In action research, methods used should be consistent with the ontological stance. Within action research, this will be through interpretation of the researcher's experience. So, the action researcher has to clarify the theoretical from the beginning. On the other hand, epistemology is defined as the theory of knowledge. It's important to distinguish between knowledge and beliefs (Blaikie, 1993). Within action research, this will be subjective and look at people's insights and experience for knowledge creation. It's important to consider the philosophical position when conducting research (Guba, 1990). Creswell (2009: p. 6) described the position within a research paradigm as being positivist or interpretivist, or any worldview. In this research, the position will be interpretivism. As mentioned previously in section 2, in details that, the debate between Hodgkinson and Rousseau, and Kieser and Leiner regarding the possibility of bridging the rigor-relevance gap ends up by analyzing their different philosophical position.

The study will shed special light on the business environment as the UAE government is transitioning from the conglomerate-driven to the business ecosystem-driven economy (Sheikh Khalifa Government Excellence Program, 2019). It will be a case study methodology, as it is useful for exploring a new research topic or developing and validating a theory based on an observed phenomenon (Eisenhardt, 1989; Eisenhardt & Graebner, 2007). Case studies can effectively represent the real world and offer a good opportunity to develop a theory based on real practices (Benbasat, Goldstein, & Mead, 1987). As UAE is one of the fastest-grow-

ing technology and business hubs in the world, the challenges of dealing with the business ecosystem's changes and resilience are required for any organization in the UAE. It helps organizations adapt to the changing business ecosystem (Kantur & İşeri-Say 2012: p. 762). Through a literature review of past studies and reports on government organizations' performance resilience, measuring effective B-ecosystem, and interviews of the top three organizations in the UAE, descriptions will be based on the interpretative philosophy.

5.3. Validity of Action Research

Validity focuses on making sure that we are measuring what we need to measure (Muijs, 2004). According to Habermas criteria for action research validity, the researcher should adopt them carefully, such as:

- The practice should be comprehensive and that will be achieved by demonstrating the actions in a rational way and explaining that the actions are grounded to the values.
- The practice should be authentic through critical reflection and being aware of ethical issues.
- The practice has to be truthful and appropriate to the context through the understanding of current situations and contextual issues, and testing the validity of the evidence against stakeholder's feedback.

According to Creswell, there are three types of validity:

- Content validity: this could be achieved by asking the participants if the questions are reflecting the area of interest.
- Criterion related validity: by setting by the targets and correlate the outcomes with it.
- Construct validity: by assessing the relevance of the score with the purpose or sequence of the study (Table 1).

Table 1. Types of research.

	Academic research	Applied or policy research	Activist research
Problem formulation	Original Making an important contribution to knowledge	Commissioned Solving a practical problem or with a practical application	Empowering Understanding the world in order to change it (so as to help the less powerful)
Context	Universal What could be changed	Local What can be changed	Politically engaged What should be changed
Role	Detached Public intellectual	Hierarchical Values and responsibilities from top down	Participatory Democratic decisions with participants
Methodology	Rational, sceptical Concerned with epistemology and methodologically correct practices	Expert Hired to provide information, on time and under budget	Standalone Ideas come from political struggle Empathetic and ethical concern for subjects
Presentation	Communal Stress on freedom to publish worldwide	Proprietary Knowledge owned by funder Evaluated by effectiveness	Accessible Accountable to a specific constituency

Source: Leonard (2001).

This study aims to explore and highlight the best practices in the best UAE public sector organizations, where all 300+ public service entities across the seven emirates who are responsible for implementing GEM 2.0 will benefit from it. In fact, managing resilience needs more than simply grafting different theories or methods onto today's strategies. This involves a radically new mental business model, one that incorporates ambiguity, volatility, interdependence, reasoning about processes, and a multi-time viewpoint.

Indicator Evaluation and Validation Criteria

To ensure that proposed indicators function as robust and policy-relevant measures of Business Ecosystem Resilience, each candidate indicator will be systematically evaluated against four quality criteria. First, strategic relevance will assess the extent to which the indicator aligns with GEM 2.0 objectives and broader national well-being priorities. Second, feasibility will evaluate the availability, reliability, and administrative practicality of data capture within participating entities. Third, sensitivity will determine whether the indicator can detect meaningful performance variation under conditions of disruption or systemic stress. Fourth, comparability will examine whether the indicator can be applied consistently across multiple entities within the ecosystem, enabling benchmarking and cross-entity learning.

Validation of the final indicator set will occur in two complementary stages. First, member-checking will be conducted whereby participating stakeholders review and confirm the interpretive accuracy and practical relevance of retained indicators. Second, a pilot scoring exercise will be implemented across the three participating entities to test clarity, usability, and inter-entity comparability of the measurement framework. Feedback from this pilot application will inform refinement of definitions, scoring scales, and data collection procedures. This staged validation approach helps bridge conceptual resilience constructs with operational measurement systems in complex public-sector environments.

6. Reflection

This module provided useful insights on how to translate academic outcomes into impactful solutions. Professionals conducting doctoral research are influenced by their work position, as well as a greater understanding of the need to establish research credibility and vital distance. This can lead to stress, by reconciling their status as both a researcher and a responsible practitioner, placing researchers in a role that forces analytical as well as ethical decisions on the part of the researcher. Crossouard and Pryor (2008) discussed that, since the task of conducting doctoral studies inevitably requires a change of identity—"becoming a scholar"—this process of identity-training is part of the learning process. The stimulus for the doctoral thesis, though, is likely to come from the researcher as she would add to expertise, with a further layer of uncertainty being provided by professional positioning. The dominant ideology of authority is very likely to prompt some agenda for reform, growth or "liberation".

Professionals have very privileged access to study subjects that can give the study cycle some benefit, but it may not be possible to achieve some sense of scope, and traditional methods of evaluation and triangulation seem elusive without exploiting the research subjects' time or patience. It is necessary to explore the essence of information development in consideration of professional doctorates (Brew, 2001; Maxwell & Shanahan, 1997). The contexts in which the status of professional doctorates is perceived, both inside and outside the academy, are undoubtedly related to concerns regarding expectations of what counts as legitimate knowledge. Distinctions between practical knowledge and intellectual knowledge and the relation between them and the worldview to obtain a real value (Bourdieu, 1997; Bernstein, 1999). Action researchers need analytical methods to help create a justifiable and authentic defense of a research position, and this requires taking a reflexive position. In other words, to put yourself firmly within the context of the study and to understand directly what it entails for the project to offer a degree of honesty and validity.

The novelty of my topic and its relation to UAE government needs are the key success factors, but the length of implementing the action research cycle could take a long time to see the results. Also, I have a doubt of possibility to implement first cycle, then the second to the third, to get a high-quality result, or to do them in parallel. Once I get an advisor, I can get advice from him. This assignment was a bit more difficult than I expected. I had 2 Zoom meetings with my professor to understand the requirements and follow the DBA track, and distance learning wasn't useful at this stage. There is not enough magnitude from scholars to focus on practical outcomes specifically in my research field. There were a lot of constraints as the topic is recent and focuses more on the Mode 1 Approach.

As the head of the strategic planning section, I dedicate my time to better invest in new global pains that are reflected in the UAE context as well. This will support me both as a scholar and as a manager. Starting with formulating the conceptual model toward knowledge creation and translation. The main challenge in this assignment is to focus and sharpen the challenge and clarify the pathway using certain scientific methodologies, aiming to bring up insightful outcomes for UAE public service.

By covering the challenges in this field from a scholar and practitioner lens, this could bring some other techniques that could help in bridging the gaps that were focused on and mentioned previously in section 2. In fact, section 3 reminds me of the Deming wheel (PDCA), which is used in my work for quality checks and assurance. I assume this will be easy to carry in my DBA project when I think about the knowledge base, but it could be different per topic and team involved. This contribution will be highly appreciated by all stakeholders and end users.

Before thinking about the approach and systems, we need to consider the environment and the values. Trust, communication, and common factors are the key success factors in my opinion at this stage. In fact, before joining this class, my aim was to formulate a conceptual model regardless of whether it translated to

action or not, but after this course I think, the aim has expanded to understand the real contribution, which definitely will enhance my knowledge and skills as well.

Author Contributions

S. Al Mashjari: conceptualisation, methodology, formal analysis, and writing—original draft. Dr. A. Omar: supervision, and writing—review and editing. All authors have read and approved the final manuscript.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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